

## V. OPERATIONS AND MAINTENANCE

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## V. OPERATIONS AND MAINTENANCE SUMMARY

*The Mouth of Cottonwood Creek Wildlife Area Land Management Plan recommends proactive ecosystem management at a level that is more intensive than in the past. It also includes the development of the Balls Ferry Research and Education Center to utilize the unique residential facilities and outbuildings on this site while filling a regional need for youth education and career development opportunities. Partnerships with local educational institutions, conservation agencies and community groups can help the California Department of Fish and Game meet the biological goals in this plan, provided the department commits additional budgetary resource of its own as a capacity building measure. The advancement of scientific knowledge regarding invasive species control and restoration of native vegetation will likely result in new techniques and opportunities for more effective wildlife management, as will growing understanding of issues specific to the site and region. To respond to changing conditions and increasing knowledge, this plan will need to be reviewed and revised periodically.*

## A. Staff and Equipment

### 1. Personnel Needs

Specific staff time and budget have not been assigned to the Mouth of Cottonwood Creek Wildlife Area (MCCWA). At the time this land management plan (LMP) was prepared, management oversight and maintenance activities were conducted by a Wildlife Habitat Supervisor II (WHS II) and a Fish and Wildlife Scientific Aid (FWSA). Both of these positions are based elsewhere and have additional management responsibilities.

As currently staffed, 0.65 Personnel Years (PY)<sup>1</sup> are allocated to the MCCWA as follows:

<i>Program Management</i>	<i>Area Manager/WHS II</i>	<i>0.10 PY</i>
<i>Maintenance</i>	<i>FWSA</i>	<i>0.55 PY</i>

To adequately support the MCCWA and to perform the tasks identified in this LMP, a combination of additional program management, site management, maintenance, and interpretive staffing will be required. The staffing program proposed in this LMP incorporates permanent staffing supplemented by seasonal labor. Table V-a summarizes the current as well as estimated new annual labor costs for the MCCWA.

#### PROGRAM MANAGEMENT

##### Area Manager/WHS II position, 0.20 PY

*Currently staffed at 0.10 PY*

The direction of the MCCWA, as well as staffing of CDFG planning and coordination activities with the Balls Ferry Research and Education Center (BFREC), will continue to be supervised by the WHS II position. This person will have the principal responsibility for implementing this LMP. Based upon discussions with CDFG staff, this position will increase to 0.20 PY (an increase of 100%). The WHS II will divide time between the MCCWA and the Battle Creek Wildlife Area, continue to serve as the area manager of the MCCWA, perform technical tasks, and give direction to the maintenance staff. The WHS II serves as CDFG's principal representative at meetings and coordinates with other agencies and interests (J. Chakarun, CDFG Wildlife Habitat Supervisor, personal communication).

#### SITE MANAGEMENT

##### WHS I position, 0.50 PY

*New position*

Increased day-to-day field operations will require a new WHS I position. The individual will act as the field manager for the MCCWA by performing basic communications, monitoring, and support functions. The individual will also assist and direct regular CDFG staff members, seasonal labor and volunteers performing biological monitoring and maintenance tasks as directed by this LMP.

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<sup>1</sup> 1.0 PY = 2080 hours

**Fish and Wildlife Interpreter I, 0.75 PY***New position*

This position will be used primarily for the BFREC and involve volunteer coordination, grant writing, site tours and setting up the interpretive program.

**MAINTENANCE****Wildlife Habitat Assistant, 0.50 PY***New position*

Under the direction of the WHS I, this position and the Fish and Wildlife Technician (below) will provide an estimated 1.00 PY to operate machinery and perform tasks related to maintenance, signage, access improvements, control of invasive non-native species, and other habitat improvement projects.

**Fish and Wildlife Technician, 0.50 PY***Currently staffed at 0.55 PY*

Under the direction of the WHS I, this position and the Wildlife Habitat Assistant (above) will provide an estimated 1.00 PY to operate machinery and perform tasks related to maintenance, signage, access improvements, control of invasive non-native species, and other habitat improvement projects.

**Table V-a. Estimated Annual Labor Cost of MCCWA LMP**

Title	Annual Salary*	Current PY	Current Cost	New PY	New Cost	Annual Increase (or savings)
Wildlife Habitat Supervisor II	\$57,306	0.10	\$5,730	0.20	\$11,461	\$5,730
Wildlife Habitat Supervisor I	\$47,676	-	-	0.50	\$23,838	\$23,838
Fish and Wildlife Interpreter I (Range B)	\$45,960	-	-	0.75	\$34,470	\$34,470
Wildlife Habitat Assistant	\$41,664	-	-	0.50	\$20,832	\$20,832
Fish and Wildlife Technician, (formerly a Scientific Aid)	\$35,970	0.55	\$19,784	0.50	\$17,985	(\$1799)
Estimated Annual Labor Cost	-	0.6	\$25,514	2.45	\$108,586	\$83,071

\* Average annual salary (without benefits) based on 2009 rates, [California State Personnel Board](#).

PY = Personnel Year (1.0 PY = 2,080 hours)

## 2. Capital Equipment Needs

Table V-b presents a summary of additional equipment that will be needed to fulfill the goals and objectives of the MCCWA LMP. Not all of these items will be immediately necessary and equipment purchases can be prioritized and phased in as funding allows.

**Table V-b. Additional Equipment Needs for the MCCWA**

Description	Estimated Cost (New)
Wheel tractor 100 hp	\$70,000
Mower 12 ft.	\$25,000
Disk 12 ft.	\$10,000
Backhoe	\$80,000
Broadcaster seed/fertilizer	\$3,000
Herbicide spray rig	\$5,000
One-ton dump bed truck	\$50,000
Estimated Total Equipment Cost	\$243,000

## B. “Step Down” Activities

### 1. Biological Resources

The newly acquired BFW2 has not been comprehensively surveyed for biological resources. Additional surveys are needed to augment the plant and wildlife species lists, to map sensitive biological resources, and to identify populations of non-native invasive plant species.

### 2. Cultural Resources

The MCCWA is located in an area rich in historical and pre-historical resources. Ethnographic villages were noted to be concentrated on the bluffs overlooking waterways (Moratto 1984), which is the environmental setting the current project is set in. Given the close proximity of both Cottonwood Creek and the Sacramento River, there is a high probability that undocumented prehistoric sites exist within the property. In 1844, P.B. Reading noted the presence of two such villages on his property, which includes the land that is now known as the Matthews Property. There is a high probability of encountering buried archaeological sites should earth moving activities be conducted on the property.

Given this history, a Cultural Resource Treatment Plan should be prepared by a qualified archaeologist familiar with the resources and issues of this region of California. Such a plan will assist managers and staff in determining appropriate actions and mitigation for cultural resources on sites, as well as appropriate management activities. The plan should include the following actions/mitigation measures:

- Conduct comprehensive archaeological surveys of the Wildlife Area to document resources;
- Record the BFW1 site, Matthews Dairy, Lateral 33, and any newly identified cultural resources;
- Determine the NRHP eligibility for known or newly identified resources. (By determining if a resource is eligible or not, undue constraints on future projects may be eliminated. If resources are determined to be eligible, this information can be used to plan for future projects);
- Incorporate locations of known cultural resources into the GIS database for the MCCWA.

## C. Funding Sources

### 1. Operations and Maintenance

Current funding sources for the operation and maintenance of the MCCWA are through CDFG's operating budget for the North Coast Region. The annual grazing leases at the Balls Ferry wetland units provide a minor budget augmentation that supports maintenance activities. Implementation of the LMP will require additional funding and support.

### 2. Capital Improvements / Restoration and Enhancement

Funding sources for capital improvements, restoration and enhancement include, but are not limited to:

- AB 1982: Funding to implement mosquito best management practices
- California Endangered Species Tax Check-Off Fund
- California Wildlife Conservation Board, Inland Wetlands Conservation Program
- CDFG Comprehensive Wetlands Program
- CDFG Minor/Major Capital Outlay proposals
- Central Valley Project, Wildlife Habitat Augmentation Plan
- Ducks Unlimited, Wetland Restoration Program
- Funding available through the Sacramento River Watershed Program
- Grant programs administered by the California Department of Water Resources (DWR) for water conservation, ground water management, and studies and activities to enhance local water supply reliability, mitigation of water projects and levee maintenance activities
- Grant programs administered by the Environmental Stewardship Council (Environmental Education and Underserved Youth)
- Grant programs administered by the National Fish and Wildlife Foundation
- Grant programs administered by the U.S. Bureau of Reclamation
- Grant programs administered by the U.S. Environmental Protection Agency
- Grant programs administered by the U.S. National Oceanic and Atmospheric Administration
- Grants programs authorized under future bond acts
- Neotropical Migratory Bird Conservation Act Grants Program
- North American Wetlands Conservation Act (NAWCA) funding
- Riparian Habitat Joint Venture
- State Duck Stamp Program
- U.S. Department of Agriculture, Natural Resources Conservation Service, Farm Bill Programs
- U.S. Fish and Wildlife Service, Endangered Species Act, Section 6 provisions for cooperation with the states
- U.S. Fish and Wildlife Service, State Wildlife Grant Program, Federal Aid in Wildlife Restoration Program
- Upland Game Stamp Program
- Western Shasta Resource Conservation District

## D. Operations and Maintenance Tasks

Operations and maintenance tasks are described earlier under the goals for each management element (IV). Tasks are presented according to topical progressions and should not be construed as a prioritized list. Tasks associated with biological goals are largely restated and incorporated under biological monitoring tasks (IVC), BFREC tasks (IVD), and facility maintenance tasks (IVE). CDFG will prioritize implementation of the tasks based upon staffing availability, outside resources and financial constraints.



## E. Future Revisions to this Plan

The MCCWA Land Management Plan (LMP) reflects the best information available at this time; however, the information within will eventually be outdated, and new information and ecological management techniques will be available and standardized. New information may include:

- Documented threats to biotic communities, habitats or wildlife species.
- Feedback generated by monitoring management activities (adaptive management).
- Scientific research that directs improved management techniques.
- New legislative or policy direction.

Implementation of a successful adaptive management plan requires a periodic reassessment of identified tasks and goals to ensure that the overall goals are being met, and integration of new techniques and scientific information. Unfortunately, this aspect of adaptive management is often neglected because it seems too involved, too cumbersome or too expensive. To address this problem, this section presents a hierarchy of revision procedures based upon the magnitude of the change: minor or major.

If the appropriate procedure for a proposed revision is not apparent, the regional manager (in consultation with the Lands and Facilities Branch) will determine which to use. Both Minor and Major revisions to the LMP require appropriate consultation within the North Coast Region and the Land and Facilities Branch, coordination and consultation with other agencies, and an appropriate level of public outreach.

### Minor Revisions

Minor LMP revisions may include the addition of new property to the Wildlife Area, the adoption of limited changes to the goals and tasks as a result of adaptive management, new scientific information, or minor policy or legislative changes. The following revisions qualify as minor:

- The revision(s) does not affect the overall purposes of the LMP.
- The revision(s) does not physically alter the environment beyond what has already been evaluated in the current LMP; therefore, does not require additional CEQA analysis.

Minor revisions to the LMP may be prepared by wildlife area staff or by using other CDFG departmental resources. The regional manager must approve these revisions.

### Major Revisions or a New Comprehensive Management Plan

New policy directions or management plans will require procedures comparable to the initial LMP planning process, and proportionate to the level of policy change that is proposed. The following revisions are categorized as major:

- Revision(s) that could substantially change the LMP.
- Revisions that propose a completely new LMP.
- Revisions that physically alter the environment of the Wildlife Area beyond what was analyzed in the current LMP.
- Management actions that require additional CEQA documentation or environmental permits and approvals.

A major revision or a new plan requires the recommendation of the regional manager, and may be prepared using available departmental resources. The director of the department must approve major revisions.

#### **Recommended Five Year Review**

As part of the adaptive management planning cycle, a complete review of the achievements of the goals of the LMP should be prepared every five years following the date of adoption of the LMP or subsequent revisions. A status report documenting this review should, at minimum, include:

- Evaluation of the achievement of the purposes and goals of this LMP.
- Evaluation of the completion or annual completion, as appropriate, of each task contained in this LMP.
- Fiscal evaluation of the program.
- Evaluation of the effectiveness of CDFG's coordination efforts with CALFED, local governments, and other property management and regulatory agencies involved in the MCCWA.
- Development of important new scientific information that has bearing on the management of the Wildlife Area.
- Recommendations for revisions to incorporate new information into the LMP and improve its effectiveness.

The status report should be prepared or coordinated by the area manager. It should be submitted to the North Coast Region for review and comment, should be approved by the regional manager, and then be submitted to the director of the California Department of Fish and Game. This report should serve as a basis for appropriate adjustments to ongoing management practices and for revisions of the Mouth of Cottonwood Creek Wildlife Area land management plan.